INSTALLATION MANUAL

SwitchPack 16

SNELL & WILCOX

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SAFETY

This symbol refers the user to important information contained in the accompanying literature. Refer to users manual.

This symbol indicates that hazardous voltages are present inside. There are no user serviceable parts inside. This unit should only be serviced by trained personnel.

Servicing instructions, where given, are for use by qualified personnel only. To reduce risk of electric shock do not perform any actions on this equipment other than contained in the operating instructions, unless you are qualified to do so. Refer all servicing to qualified personnel.

WARNING **TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.**

Always ensure that the unit is properly earthed and power connections correctly made.

This equipment must be supplied from a power system providing a PROTECTIVE EARTH connection and having a neutral connection which can be reliably identified.

The control panel shall be separately earthed via the terminal on the rear of its enclosure.

The power outlet supplying power to the unit should be close to the unit and easily accessible

Power Supply and Connections

The mainframe and the control panel each have an internal power supply.

Mains Supply Voltage

Before connecting the equipment, observe the safety warnings section and ensure that the local mains supply is within the rating stated on the rear of the equipment.

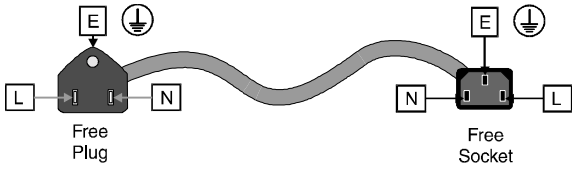
Supply voltages for both units must be in the range 100 vac to 120 vac or 200 vac to 240vac at 50 to 60Hz.

	Model Number	PSU Rating	Fuse Rating
Control Panel	4038200	100-120V / 200-240V 1A Max	T1AH
Mainframe	4038550	100-120V / 200-240V 1.75A Max	T2AH

Power cable supplied for the USA

The equipment is shipped with a power cord with a standard IEC moulded free socket on one end and a standard 3-pin plug on the other. If you are required to remove the moulded mains supply plug, dispose of the plug immediately in a safe manner. The colour code for the lead is as follows:

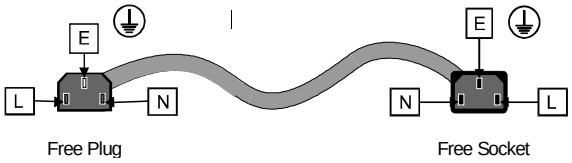
GREEN lead connected to E
(Protective Earth Conductor)
WHITE lead connected to N
(Neutral Conductor)
BLACK lead connected to L
(Live Conductor)



Power cable supplied for countries other than the USA

The equipment is shipped with a power cable with a standard IEC moulded free socket on one end and a standard IEC moulded plug on the other. If you are required to remove the moulded mains supply plug, dispose of the plug immediately in a safe manner. The colour code for the lead is as follows:

GREEN/YELLOW lead connected to E
(Protective Earth Conductor)
BLUE lead connected to N
(Neutral Conductor)
BROWN lead connected to L
(Live Conductor)



Maintenance & Repair

There are no user serviceable parts within either the Mainframe or the Control Panel.

In the unlikely event of an equipment failure contact the Snell & Wilcox Post Production Customer Support department, contact details below:

Telephone	+ 44 (0) 1799 508100
Fax	+ 44 (0) 1799 508800
e-mail	post.support@snellwilcox.com

Cooling Fan Failure

IF A COOLING FAN IN THE MAINFRAME SHOULD STOP FOR ANY REASON THE SYSTEM SHOULD BE SWITCHED OFF IMMEDIATELY OR PERMANENT DAMAGE MAY RESULT.

Depending on the length of time the mainframe has been run with no fan the unit may need to be returned for checking and repair. Contact Snell and Wilcox or your Snell and Wilcox dealer to discuss the situation.

Safety Standards

This equipment complies with the following standards:

CE

BS EN60950 (2000)

Safety of information Technology Equipment Including Electrical Business Equipment.

EMC Standards

This unit conforms to the following standards:

BS EN 55103-1 : 1997

Electromagnetic Compatibility, Product family standard for audio, video, audio-visual and entertainment lighting control apparatus for professional use. Part 1. Emission

BS EN 55103-2 : 1997

Electromagnetic Compatibility, Product family standard for audio, video, audio-visual and entertainment lighting control apparatus for professional use. Part 2. Immunity

Federal Communications Commission Rules Part 15, Class A :1998

EMC Environment

The product(s) described in this manual conform to the EMC requirements for, and are intended for use in,

either

The commercial and light industrial environment (including, for example, theatres) E2

or

The controlled EMC environment (e.g., purpose-built broadcasting or recording studios), and the rural outdoor environment (far away from railways, transmitters, overhead power lines, etc.) E4

EMC Performance of Cables and Connectors

Snell & Wilcox products are designed to meet or exceed the requirements of the appropriate European EMC standards. In order to achieve this performance in real installations it is essential to use cables and connectors with good EMC characteristics.

All signal connections (including remote control connections) shall be made with screened cables terminated in connectors having a metal shell. The cable screen shall have a large-area contact with the metal shell.

COAXIAL CABLES

Coaxial cables connections (particularly serial digital video connections) shall be made with high-quality double-screened coaxial cables such as Belden 8281 or BBC type PSF1/2M.

D-TYPE CONNECTORS

D-type connectors shall have metal shells making good RF contact with the cable screen. Connectors having "dimples", which improve the contact between the plug and socket shells, are recommended.

CONTENTS

Safety iii

Unpacking 1

The Mainframe..... 1

The Control Panel 1

Mainframe Rear View 2

Port Descriptions 2

External Reference Sync 2

Updating Software and Hardware 3

System Info Menu 3

Disk Update Method 4

Editor and Panel Cable 5

Editor Wipe Codes 6

DELIBERATELY BLANK

Unpacking

Check the delivery against the shipping note to ensure that all items are present. Unpack the equipment carefully and check all items for transportation damage. If damage has occurred contact the shipping company and Snell & Wilcox Ltd or the local agent immediately with a written description of the visible damage.

The SwitchPack 16 system comes in two boxes, one for the Control panel and the other for the Switcher Mainframe.

The Control Panel box contains..... Control panel and RS422 Serial Comms cable.

The Mainframe box contains……..... Mainframe and the Manuals.

The Mainframe

The SwitchPack 16 mainframe is designed for mounting in a 19” equipment rack. It occupies 1 Unit of rack space vertically, and 21 “ (535mm) of rack depth.

The mainframe is supplied fitted with two rack mounting “ears”. These ears are screwed to each side at the front of the mainframe using six Screws, (three each side). The mainframe should be mounted in a standard 19” rack equipped with a rack tray to support the weight of the mainframe, using the front ears merely to position it. The ears should not be used to support the unit.

The Mainframe is cooled by four fans along one side of the unit. These fans draw air in through vents in the opposite side and the front of the unit providing a cross flow.

Do not obstruct the inlet vents or the fans.

There is no mains power switch on the mainframe.

To the left front of the mainframe is a standard 1.44MB Floppy disc drive for archiving of all files.

At the rear of the mainframe the mains inlet, video, reference and the control ports are found.

The external connections are all clearly marked. See diagram of rear panel on page 2.

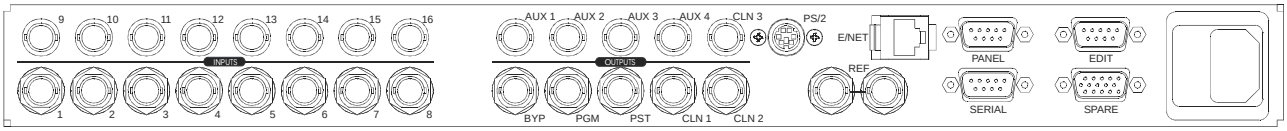
The Control Panel

The Control Panel is powered from an internal power supply unit.

Communication to the Mainframe is via a RS422 link using 9 pin D Type connectors.

Control Panel operations are described in the user manual.

Mainframe Rear View



Port Descriptions

Port Name	Description	Type
PANEL	RS422 serial communications with Control panel	9 Way D-Type
SERIAL	For future use	9 Way D-Type
EDIT	Connection of edit unit	9 Way D-Type
SPARE	Tally/GPI port	15 Way D-type
E/NET	Network Connection	RJ45 Connector
PS/2	PS-2 Mouse port	PC PS-2
IN 1 – 16	Bus Video Sources - Serial Digital Video inputs	Serial BNC
AUX 1 - 4	Auxiliary outputs	Serial BNC
BYP	Outputs program or input 8 on power fail	Serial BNC
PGM	Program Output - Serial Digital Video	Serial BNC
PST	Preset Output - Serial Digital Video	Serial BNC
CLN 1	Program output before all DSK channels	Serial BNC
CLN 2	Program output with DSK channel 1	Serial BNC
CLN 3	Program output with DSK channels 1 and 2	Serial BNC
EXT REF	Black Burst with 300mV Sync (loop)	BNC

External Reference Synchronisation

The SwitchPack 16 MUST be locked to an external analogue reference source, usually black burst with 300mV sync. The unit auto senses 525/625 signals.

Note. The SwitchPack 16 Engineering - System menu must be set to AUTO for auto sense to be enabled.

UPDATING SOFTWARE AND HARDWARE

System Info Menu

Information about the options installed, the software build date and the hardware build dates can be accessed from the System Info Menu.

This menu is hidden from normal use. To access it you must press the top three menu buttons simultaneously **(KEY)/ (WIPE 1)/ (WIPE 2).**

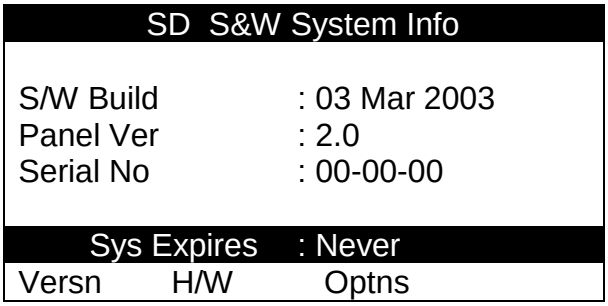


Figure 1: System Info Menu

The System Info Menu has three sub menus which can be accessed using the bottom three softkeys {**Versn}, {H/W}** and **{Optns}.**

The **{Versn}** menu (above) displays the mainframe software build date, the panel version and the serial number.

{H/W} Shows the build date of the hardware system files.

{Optns} Shows the currently active options. These will be either **Active** or **Off**

The line "**Sys Expires**:" Shows the expiry of the main system. If the system expires then the unit will cease to function. **Never** means that the system will never expire. "**EXPIRED !!!"** means that the system has expired. Contact Snell & Wilcox for an updated Password Disk. If this line shows a date then the system will expire on that date.

Disk Update Method

Software, password and hardware updates are mainly provided in the form of one or more floppy disks. The installation procedure is automated and is carried out as follows.

Power down the mainframe.

Put the disk in the floppy drive and power up the system.

The machine will now reboot and copy the contents of the floppy disk onto the system hard drive. The panel will also update to show each file being copied.

When the installation is complete. Remove the disk from the floppy drive and cycle the power on the mainframe.

The system will now operate as normal again.

TALLY & GPI INTERFACE

SwitchPack 16 has a simple tally and GPI interface using basic TTL levels.

Tally & GPIs

SwitchPack 16 has 8 tally outputs, corresponding to the video sources one to eight.

The system also has 5 GPI inputs. These can be configured to trigger the **AutoTrans, Cut, Fade to Black** transitions and/or **Timeline** functions.

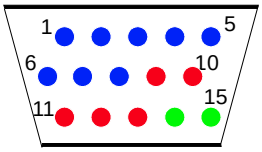
Electrical Specification

The GPI port is a 15 way Male Connector as shown right.

Pins 1 to 8 correspond to Tally outputs 1 to 8.

Pins 9 to 13 correspond to General Purpose Inputs 1 to 5.

Pins 14 & 15 are Signal Ground pins.



view looking at rear panel

GPIs

All of the input lines are Active Low and are internally pulled up to +5V via 1K2 resistors. GPI inputs are level triggered and are sampled once per field.

Tally Outputs

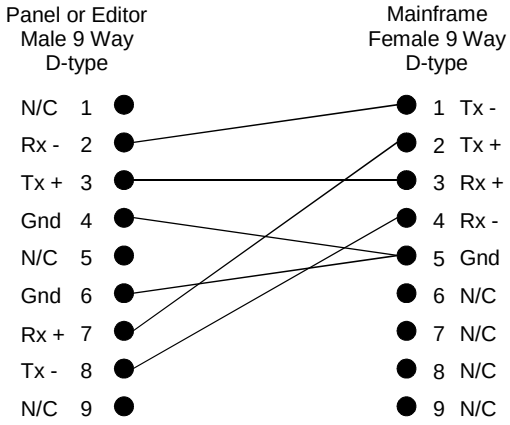
Tally outputs are **Active High** TTL signals. These are permanently enabled and require no software setup. The state of the tally outputs follow the program output bus, as follows:-

Active Button	Tally output
Black	All outputs low.
Button 1	Pin 1 high all others low
Button 2	Pin 2 high all others low
Button 3	Pin 3 high all others low
Button 4	Pin 4 high all others low
Button 5	Pin 5 high all others low
Button 6	Pin 6 high all others low
Button 7	Pin 7 high all others low
Button 8	Pin 8 high all others low
Matte	All outputs low.

WARNING **THE TALLY AND GPI INTERFACE IS CONNECTED TO THE PROCESSOR CIRCUITRY.**
DAMAGE TO THE PROCESSOR MAY BE CAUSED IF ADEQUATE PRECAUTIONS ARE NOT TAKEN.

CONTROL CABLE WIRING

SwitchPack 16 Mainframe to Control Panel or Editor



EDITOR WIPE CODES

The following charts describes the wipe codes needed by an editor driving a SwitchPack 16 switcher. Wipes codes are dependent on the editor protocols selected.

GVG200 Protocol Wipe Codes

200 Wipe Code	Function
0	Vertical Wipe
1	Top Left Corner Wipe
2	V Wipe
3	Circle Wipe
4	Bottom Left Diagonal Wipe
5	Clock Wipe
6	Clock Wipe
10	Horizontal Wipe
11	Top Right Corner Wipe
12	Left V Wipe
13	Ellipse Wipe
14	Diagonal Top Left Wipe
17	45 Cross Wipe
20	Vertical Mirror Wipe
21	Bottom Right Corner Wipe
22	Right V Wipe
23	Square Wipe
24	Cross Wipe
30	Horizontal Mirror Wipe
31	Bottom Left Corner Wipe
32	V Bottom Wipe
33	Diamond Wipe
34	Egg Timer Wipe

END OF MANUAL